

Analysis of the influence of industrial policies to the economic development: evidence from Tanzania

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Abstract: Literature manifest that Tanzania industrial policies were not satisfactorily executed to realize the intended goals for economic development. With that regard the interrogation of the influence of industrial policies to economic development in Tanzania become the discourse. The contemporary study is undertaken to analyze the influence of industrial policies to economic development during the period from 1996 to 2015 in Tanzania. A Simple Regression model is employed to appraise the influence of industrial policies to economic development during the period from 1996 to 2015 in Tanzania. Facts of the study were gathered from the World Bank and Tanzania National Bureau Of Statistics for the period from 1996 to 2015. To probe the influence of industrial policies to economic development during the period from 1996 to 2015 in Tanzania, Industrial policies were represented by the economic openness as Independent variable and other macroeconomic variables (industrial registration, Gross Domestic Product (GDP), employment, investment, import, export and revenue) as the dependent variables of the study. The information discovered from the probe were in actual fact absorbing. Findings of the study reveal that the correlation between economic openness and all macroeconomic variables (industrial registration, Gross Domestic Product (GDP), investment, import, export and revenue) is positive and meaningful Except to Employment. The correlation between economic openness and employment is negative and meaningless. The meaning is industrial policies had significant influence to all macroeconomic variables (industrial registration, Gross Domestic Product (GDP), investment, import, export and revenue) except Employment during the period from 1996 to 2015 in Tanzania.

Keywords: Tanzania, Industrial Policies, and Economic Development.

Introduction

Tanzania launched industrial policies and starting the implementation from the year of 1996 aiming to pilot the manufacturing sector resulting for the quick economic development in the country towards industrialization and achieving middle income status. Tanzania Ministry of Industry and Trade Report, Pg.12, (2011), stated that, "Sustainable Industrial Development Policy 1996-2020 (SIDP) The Sustainable Industrial Development Policy 1996-2020 (SIDP) was

launched during the second half of the 1990s, replacing the Basic Industry Strategy (BIS) which had expired in 1995”.

Literature explore that Tanzania industrial policies were not properly implemented to achieve the desired goals of economic development. Regarding that, the question of the influence of these policies to economic development become the debate. Tanzania’s gradual path to an industrial economy has been adventurous, full of challenges and mostly difficult. However, this is not due to the lack of policies Tanzania has drafted many policies for transforming the industrial sector since independence. Some of these policies were weak and some strong, but the main problem, as often pointed out by academicians has been poor implementation. “The results in terms of industrial development have failed to keep pace with the rhetoric,” says John page from Brookings Institutions (The Citizen, Pg.1. ,2018).

The present study is undertaken to investigate the influence of industrial policies to economic development during the period from 1996 to 2015 in Tanzania. The study specifically will investigate the influence industrial policies represented by the economic openness as independent variable to the macroeconomic dependent variables of the study, that are industrial registration, Gross Domestic Product (GDP), employment, investment, import, export and revenue.

Motivation of the study and objective

Literature explore that Tanzania industrial policies were not properly implemented to achieve the desired goals of economic development. Regarding that, the question of the influence of these policies to economic development become the debate. Tanzania’s gradual path to an industrial economy has been adventurous, full of challenges and mostly difficult. However, this is not due to the lack of policies Tanzania has drafted many policies for transforming the industrial sector since independence. Some of these policies were weak and some strong, but the main problem, as often pointed out by academicians has been poor implementation. “The results in terms of industrial development have failed to keep pace with the rhetoric,” says John page from Brookings Institutions (The Citizen, Pg.1. ,2018).

The present study is undertaken to investigate the influence of industrial policies to economic development during the period from 1996 to 2015 in Tanzania. The study specifically will investigate the influence industrial policies represented by the economic openness as independent variable to the macroeconomic dependent variables of the study, that are industrial registration, Gross Domestic Product (GDP), employment, investment, import, export and revenue.

Considering the present study findings, the study will generate new knowledge which will show the relationship between industrial policies and macroeconomic variables during the period from 1996 to 2015 in Tanzania. Where by the relationship between industrial policies and all macroeconomic variables (industrial registration, Gross Domestic Product (GDP), Investment, Import, Export and Revenues) is Positive and meaningful, except employment where the results indicates negative relationship and meaningless.

The objective of the study is to analyze the influence of industrial policies to economic development during the period from 1996 to 2015 in Tanzania.

Literature review

In this setting and considering the high dependence of Tanzania's economy on the agricultural sector, policymakers emphasized the need to build a competitive industrial sector to transform the economy. Industrial policies continue to be formulated to address the challenges that arise to this very day (Tanzania Industrial Competitive Report,P.g.17. 2012).

Manufacturing has strategic importance in technology and innovation for economic development since it explores new ideas and is a leading sector for technological diffusion, which has strong linkages and spillover effects associated with manufacturing (Msami and Wangwe ,P.G.1., 2016).

Industrialization is primarily a political project: ▪ Identifying and managing winners and losers e.g. traders and industrialists., Build industrial policy management capabilities among key actors primarily through learning by doing (Wangwe ,Pg.1., 2018).

Successful industrial policies need to be accompanied by reliable energy policies – especially in a country like Tanzania, which is among the least electrified countries in the world. (Gussai. S, Bitrina. D.,and Hezron. M.Pg.1., 2018).

Tanzania's industrial sector has evolved through various stages since independence in 1961, from nascent and undiversified to state-led import substitution industrialization, and subsequently to de-industrialization under the structural adjustment programmes and policy reforms. The current development agenda, however, has brought industrial development back to be one of the policy priorities (Wangwe, Mmari,Aikael, Rutatina and Mboghoina,.Pg.1. 2016).

Industrialisation has been recognised as the overarching policy priority guiding the design and implementation of all policies and strategies aimed at achieving the objectives of Tanzania's Five-Year Development Plan 2016/17–2021/22 (FYDP II). (Kweka, Pg.1., 2018).

The paper ended with policy options and strategies to enhance the impact of trade and industrial policies on poverty reduction. These included improving the business environment; reducing restrictive trade and customs regulations; improving customs administration, promoting entrepreneurship and promote the rural economy, (Nyoni,Pg.1., 2006).

Industrial policy has received renewed interest among researchers and policy makers in recent years because of failed industrial development in the developing world, the only exception being the Asian experiences(Higuchi and Shimada ,Pg.1., 2019).

The Integrated Industrial Development Strategy 2025 (IIDS 2025) reviews the policies of SIDP in the context of the emerging economic environment and prepares a road map for implementation of the SIDP strategies so as to achieve the objectives of the industrial sector as mandated under VISION 2025 targets, (Ministry of Industry and Trade United Republic of Tanzania , Pg.1.,2011).

Why Industrial Policy? It is useful to recount briefly the motivating factors behind the push to industrialize, if only to place the subsequent policies in their historical context. (Shapiro,Pg.1., 2007).

Industrial policy is back on the agenda and the consensus is that it must be different 'this time' from the past. We redefine industrial policy for industrialised countries as a strategy to promote 'high-road competitiveness', understood as the ability of an economy to achieve 'Beyond-GDP' Goals (Aiginger, Pg.1.,2014).

Data and methodology

The current study ascertain to probe the influence of industrial policies to economic development during the period from 1996 to 2015 in Tanzania. A Simple Regression Model in Double Log and Semi Log Linear Models applied as methodology to inquire into the influence of industrial policies to economic development during the period from 1996 to 2015 in Tanzania. The study data were collected from the World Bank and Tanzania National Bureau Of Statistics during the period from 1996 to 2015.

To inspect the influence of industrial policies to economic development during the period from 1996 to 2015 in Tanzania, industrial policies were represented by economic openness and regarded as independent variable, while industrial registration, Gross Domestic Product (GDP), Employment, Investment, Import, Export and Revenue be regarded as Dependent variables of the study. To assess the influence of industrial policies to economic development the study employed quantitative approach attached with the excel (Microsoft office excel 2007) EVIEWS (3.0 style).

To examine carefully the influence of industrial policies to economic development during the period from 1996 to 2015 in Tanzania, the study establish the following equations:

The Influence of industrial policies to industrial registration:

$IR = \alpha_0 + \beta_1 E_t + e_{1t1}$ (1) Where, IR is the natural log of Industrial Registration, E is Economic Openness Index. The α_0 is constant, and β_1 is coefficients parameter.

The Influence of industrial policies to Gross Domestic Product(GDP):

$G = \alpha_0 + \beta_1 E_t + e_{1t2}$ (2) Where, G is the natural log of Gross Domestic Product (GDP), E is Economic Openness Index. The α_0 is constant, and β_1 is coefficients parameter.

The Influence of industrial policies to Employment:

$EMP = \alpha_0 + \beta_1 E_t + e_{1t3}$ (3) Where, EMP is the natural log of Employment, E is Economic Openness Index. The α_0 is constant, and β_1 is coefficients parameter.

The Influence of industrial policies to Investment:

$INV = \alpha_0 + \beta_1 E_t + e_{1t4}$ (4) Where, INV is the natural log of Investment, E is Economic Openness Index. The α_0 is constant, and β_1 is coefficients parameter.

The Influence of industrial policies to Import:

$IM = \alpha_0 + \beta_1 E_t + e_{1t5}$ (5) Where, IM is the natural log of Import, E is Economic Openness Index. The α_0 is constant, and β_1 is coefficients parameter.

The Influence of industrial policies to Export:

$EX = \alpha_0 + \beta_1 E_t + e_{1t6}$ (6) Where, EX is the natural log of Export, E is Economic Openness Index. The α_0 is constant, and β_1 is coefficients parameter.

The Influence of industrial policies to Revenue:

$REV = \alpha_0 + \beta_1 E_t + e_{1t7}$ (7) Where, REV is the natural log of Revenue, E is Economic Openness Index. The α_0 is constant, and β_1 is coefficients parameter.

Empirical results and discussion

The current study after gathering all the data subject to examination, descriptive and analytical approach were applied to investigate the influence of industrial policies to economic development during the period from 1996 to 2015 in Tanzania.

To examine the influence of industrial policies to economic development the study applied quantitative approach attached with the Excel (Microsoft office excel 2007) EVIEWS (3.0 style).

Correlation between industrial policies and macroeconomic variables

The contemporary study assumes industrial policies which regarded as economic openness as independent variable, while the rest macroeconomic variables (industrial registration, Gross Domestic Product (GDP), Employment, Investment, Import, Export and Revenue) as the Dependent variables to assess the influence of industrial policies to economic development during the period from 1996 to 2015 in Tanzania.

DATA. Appendix 1 : Data gathered from the word bank and Tanzania Bureau of statistics during the period from 1996 to 2015 in Tanzania.

| Y | E.O.I | IND | GDP | EMP | INV | IMP | EXP | REV |
|------|--------|------|-------|--------|-------|--------|--------|-------|
| 1996 | 51.881 | 210 | 4.544 | 84.023 | 0 | 31.944 | 19.937 | 0 |
| 1997 | 41.908 | 210 | 3.525 | 84.071 | 0 | 25.69 | 16.218 | 0 |
| 1998 | 25.936 | 210 | 3.709 | 84.222 | 0 | 15.911 | 10.025 | 0 |
| 1999 | 25.013 | 210 | 4.864 | 84.132 | 0 | 14.85 | 10.163 | 0 |
| 2000 | 23.981 | 345 | 4.521 | 84.228 | 0 | 13.172 | 10.809 | 0 |
| 2001 | 28.021 | 345 | 6.071 | 84.36 | 0 | 14.188 | 13.832 | 0 |
| 2002 | 27.49 | 345 | 7.093 | 84.469 | 0 | 13.213 | 14.277 | 0 |
| 2003 | 30.438 | 345 | 6.673 | 84.676 | 0 | 15.35 | 15.088 | 0 |
| 2004 | 33.598 | 345 | 7.504 | 84.889 | 0 | 17.558 | 16.04 | 0 |
| 2005 | 36.959 | 1131 | 7.476 | 85.12 | 0 | 19.976 | 16.983 | 0 |
| 2006 | 42.768 | 1131 | 6.532 | 85.49 | 0 | 24.353 | 18.415 | 0 |
| 2007 | 48.058 | 1131 | 6.769 | 85.587 | 0 | 28.228 | 19.831 | 0 |
| 2008 | 49.027 | 1131 | 5.686 | 85.397 | 0 | 29.562 | 19.465 | 0 |
| 2009 | 43.533 | 1131 | 5.269 | 84.746 | 2.951 | 25.338 | 18.194 | 12.09 |
| 2010 | 47.64 | 1131 | 6.337 | 83.711 | 2.536 | 28.033 | 19.608 | 10.39 |
| 2011 | 56.166 | 1131 | 7.672 | 82.723 | 1.751 | 34.532 | 21.634 | 10.32 |
| 2012 | 54.37 | 1131 | 4.5 | 82.252 | 3.058 | 31.998 | 22.372 | 11.32 |
| 2013 | 48.631 | 1131 | 6.782 | 81.782 | 2.053 | 29.618 | 19.012 | 11.36 |
| 2014 | 45.356 | 434 | 6.732 | 81.652 | 0.712 | 27.287 | 18.069 | 12.23 |
| 2015 | 40.758 | 434 | 6.161 | 81.627 | 0.44 | 23.653 | 17.105 | 11.38 |
| | | | | | | | | |

| | | | | | | | | |
|-------|---------|-------|--------|--------|--------|--------|---------|-------|
| TOTAL | 801.532 | 13612 | 118.42 | 1679.1 | 13.501 | 464.45 | 337.077 | 79.12 |
|-------|---------|-------|--------|--------|--------|--------|---------|-------|

Where:Y is the Year, E.O.I is Economic Openness Index, IND is Industry Registration, GDP is Gross Domestic Product, EMP is Employment, INV is Investment, IMP is Import, EXP is Export, and REV is Revenue.

Appendix 2: From appendix number 1, Data computed to the natural Logarithms for all macroeconomic variables during the period from 1996 to 2015.

| Y | EOI | IND | GDP | EMP | INV | IMP | EXP | REV |
|-------|-------|-------|-------|------|-------|-------|-------|------|
| 1996 | 3.95 | 5.35 | 1.51 | 4.43 | 0 | 3.46 | 3 | 0 |
| 1997 | 3.74 | 5.35 | 1.3 | 4.43 | 0 | 3.25 | 2.79 | 0 |
| 1998 | 3.26 | 5.35 | 1.31 | 4.43 | 0 | 2.77 | 2.31 | 0 |
| 1999 | 3.22 | 5.35 | 1.58 | 4.43 | 0 | 2.7 | 2.32 | 0 |
| 2000 | 3.18 | 5.84 | 1.51 | 4.43 | 0 | 2.58 | 2.38 | 0 |
| 2001 | 3.33 | 5.84 | 1.8 | 4.44 | 0 | 2.65 | 2.63 | 0 |
| 2002 | 3.31 | 5.84 | 1.96 | 4.44 | 0 | 2.58 | 2.66 | 0 |
| 2003 | 3.42 | 5.84 | 1.9 | 4.44 | 0 | 2.73 | 2.71 | 0 |
| 2004 | 3.51 | 5.84 | 2.02 | 4.44 | 0 | 2.87 | 2.78 | 0 |
| 2005 | 3.61 | 7 | 2.01 | 4.44 | 0 | 3 | 2.83 | 0 |
| 2006 | 3.76 | 7 | 1.88 | 4.45 | 0 | 3.19 | 2.91 | 0 |
| 2007 | 3.87 | 7 | 1.91 | 4.45 | 0 | 3.34 | 2.99 | 0 |
| 2008 | 3.9 | 7 | 1.74 | 4.45 | 0 | 3.39 | 2.97 | 0 |
| 2009 | 3.77 | 7 | 1.66 | 4.44 | 1.08 | 3.23 | 2.9 | 2.5 |
| 2010 | 3.86 | 7 | 1.85 | 4.43 | 0.93 | 3.33 | 2.98 | 2.34 |
| 2011 | 4.03 | 7 | 2.04 | 4.42 | 0.56 | 3.54 | 3.07 | 2.33 |
| 2012 | 4 | 7 | 1.5 | 4.41 | 1.12 | 3.47 | 3.11 | 2.43 |
| 2013 | 3.88 | 7 | 1.91 | 4.4 | 0.72 | 3.39 | 2.95 | 2.43 |
| 2014 | 3.81 | 6 | 1.91 | 4.4 | -0.34 | 3.31 | 2.89 | 2.5 |
| 2015 | 3.71 | 6 | 1.82 | 4.4 | -0.82 | 3.16 | 2.84 | 2.43 |
| | | | | | | | | |
| Total | 73.12 | 125.6 | 35.12 | 88.6 | 3.25 | 61.94 | 56.02 | 16.9 |

Where:Y is the Year, E.O.I is Economic Openness Index, IND is Industry Registration, GDP is Gross Domestic Product, EMP is Employment, INV is Investment, IMP is Import, EXP is Export, and REV is Revenue.

THE INFLUENCE OF INDUSTRIAL POLICIES TO INDUSTRIAL REGISTRATION DURING THE PERIOD FROM 1996 TO 2015 IN TANZANIA

The information discovered from the probe indicate the correlation between economic openness and industrial registration is positive and meaningful during the period from 1996 to 2015 in Tanzania. The computation displays the coefficient for economic openness is 1.5782 ($t=3.7152, p<0.001$). The meaning is for each additional increase in economic openness industrial registration increases by 1.5782 points. Generally means industrial policies influenced industrial registration during the period from 1996 to 2015 in Tanzania. These findings originated from Table 1 below.

Table 1: Regression Results Between Economic Openness and Industrial Registration during the period from 1996 to 2015.

Dependent Variable : Industrial Registration

| V | CT | SD | T | P |
|---------|--------|--------|--------|---|
| | | | | |
| M | 1.5782 | 0.4248 | 3.7152 | 0 |
| C | 0.51 | | | 0 |
| R2 | 0.3958 | | | |
| AR | 0.3622 | | | |
| SER | 0.5151 | | | |
| NOB =20 | | | | |

Origin: Roughly calculated from Appendix 3.

Where: V is Variable, CT is Coefficient, C is Constant, SD is the Standard Deviation, T is T-Statistic, P is Probability, M is Economic Openness, R2 is R-Squared, AR is Adjusted R-Square, SER is Standard Error of Estimation NOB is number of Observation.

Appendix 3: Regression Calculation between Economic Openness and Industrial Registration during the period from 1996 to 2015.

| Y | EOI | IND | X ² | Y ² | XY |
|------|------|------|----------------|----------------|---------|
| | | | | | |
| 1996 | 3.95 | 5.35 | 15.6025 | 28.6225 | 21.1325 |
| 1997 | 3.74 | 5.35 | 13.9876 | 28.6225 | 20.009 |
| 1998 | 3.26 | 5.35 | 10.6276 | 28.6225 | 17.441 |

| | | | | | |
|-------|-------|-------|---------|---------|----------|
| 1999 | 3.22 | 5.35 | 10.3684 | 28.6225 | 17.227 |
| 2000 | 3.18 | 5.84 | 10.1124 | 34.1056 | 18.5712 |
| 2001 | 3.33 | 5.84 | 11.0889 | 34.1056 | 19.4472 |
| 2002 | 3.31 | 5.84 | 10.9561 | 34.1056 | 19.3304 |
| 2003 | 3.42 | 5.84 | 11.6964 | 34.1056 | 19.9728 |
| 2004 | 3.51 | 5.84 | 12.3201 | 34.1056 | 20.4984 |
| 2005 | 3.61 | 7 | 13.0321 | 49 | 25.27 |
| 2006 | 3.76 | 7 | 14.1376 | 49 | 26.32 |
| 2007 | 3.87 | 7 | 14.9769 | 49 | 27.09 |
| 2008 | 3.9 | 7 | 15.21 | 49 | 27.3 |
| 2009 | 3.77 | 7 | 14.2129 | 49 | 26.39 |
| 2010 | 3.86 | 7 | 14.8996 | 49 | 27.02 |
| 2011 | 4.03 | 7 | 16.2409 | 49 | 28.21 |
| 2012 | 4 | 7 | 16 | 49 | 28 |
| 2013 | 3.88 | 7 | 15.0544 | 49 | 27.16 |
| 2014 | 3.81 | 6 | 14.5161 | 36 | 22.86 |
| 2015 | 3.71 | 6 | 13.7641 | 36 | 22.26 |
| | | | | | |
| TOTAL | 73.12 | 125.6 | 268.804 | 798.018 | 461.5095 |

Origin: From Appendix 2

Where: Y is the Year, EOI is the Economic Openness Index (X) , and IND is the Industrial Registration (Y).

THE INFLUENCE OF INDUSTRIAL POLICIES TO GROSS DOMESTIC PRODUCT (GDP) DURING THE PERIOD FROM 1996 TO 2015 IN TANZANIA

The information discovered from the probe indicate the correlation between economic openness and Gross Domestic Product (GDP) is positive and meaningful during the period from 1996 to 2015 in Tanzania. The computation displays the coefficient for economic openness is 0.1493 ($t=3.3326, p<.001$). The meaning is for each additional increase in economic openness Gross Domestic Product (GDP) increases by 1.493 points. Generally means industrial policies influenced Gross Domestic Product (GDP) during the period from 1996 to 2015 in Tanzania. These findings originated from Table 1 below.

Table 1: Regression Results Between Economic Openness and Gross Domestic Product (GDP) during the period from 1996 to 2015.

Dependent Variable : Gross Domestic Product (GDP)

| V | CT | SD | T | P |
|---------|---------|--------|--------|---|
| | | | | |
| M | 0.1493 | 0.0448 | 3.3326 | 0 |
| C | 1.2102 | | | 0 |
| R2 | 0.0324 | | | |
| AR | -0.0214 | | | |
| SER | 0.0544 | | | |
| NOB =20 | | | | |

Origin: Roughly calculated from Appendix 4.

Where: V is Variable, CT is Coefficient, C is Constant, SD is the Standard Deviation, T is T-Statistic, P is Probability, M is Economic Openness, R2 is R-Squared, AR is Adjusted R-Square, SER is Standard Error of Estimation NOB is number of Observation.

Appendix 4: Regression Calculation between Economic Openness and Gross Domestic Product (GDP) for the period from 1996 to 2015.

| Y | EOI | GDP | X ² | Y ² | XY |
|------|------|------|----------------|----------------|--------|
| | | | | | |
| 1996 | 3.95 | 1.51 | 15.6025 | 2.2801 | 5.9645 |
| 1997 | 3.74 | 1.3 | 13.9876 | 1.69 | 4.862 |
| 1998 | 3.26 | 1.31 | 10.6276 | 1.7161 | 4.2706 |
| 1999 | 3.22 | 1.58 | 10.3684 | 2.4964 | 5.0876 |
| 2000 | 3.18 | 1.51 | 10.1124 | 2.2801 | 4.8018 |
| 2001 | 3.33 | 1.8 | 11.0889 | 3.24 | 5.994 |
| 2002 | 3.31 | 1.96 | 10.9561 | 3.8416 | 6.4876 |
| 2003 | 3.42 | 1.9 | 11.6964 | 3.61 | 6.498 |
| 2004 | 3.51 | 2.02 | 12.3201 | 4.0804 | 7.0902 |
| 2005 | 3.61 | 2.01 | 13.0321 | 4.0401 | 7.2561 |
| 2006 | 3.76 | 1.88 | 14.1376 | 3.5344 | 7.0688 |

| | | | | | |
|-------|-------|-------|---------|---------|----------|
| 2007 | 3.87 | 1.91 | 14.9769 | 3.6481 | 7.3917 |
| 2008 | 3.9 | 1.74 | 15.21 | 3.0276 | 6.786 |
| 2009 | 3.77 | 1.66 | 14.2129 | 2.7556 | 6.2582 |
| 2010 | 3.86 | 1.85 | 14.8996 | 3.4225 | 7.141 |
| 2011 | 4.03 | 2.04 | 16.2409 | 4.1616 | 8.2212 |
| 2012 | 4 | 1.5 | 16 | 2.25 | 6 |
| 2013 | 3.88 | 1.91 | 15.0544 | 3.6481 | 7.4108 |
| 2014 | 3.81 | 1.91 | 14.5161 | 3.6481 | 7.2771 |
| 2015 | 3.71 | 1.82 | 13.7641 | 3.3124 | 6.7522 |
| | | | | | |
| TOTAL | 73.12 | 35.12 | 268.804 | 62.6832 | 128.6194 |

Origin: Appendix 2

Where: Y is the Year, EOI is the Economic Openness Index (X), and GDP is the Gross Domestic Product (Y).

THE INFLUENCE OF INDUSTRIAL POLICIES TO EMPLOYMENT DURING THE PERIOD FROM 1996 TO 2015 IN TANZANIA

The investigation outcome reveal that the correlation between economic openness and employment is negative and meaningless during the period from 1996 to 2015 in Tanzania. The meaning is industrial policies did not influence the employment during the period from 1996 to 2015 in Tanzania. Findings from Table 1 below:

Dependent Variable : Employment

| V | CT | SD | T | P |
|---------|---------|--------|---------|---|
| | | | | |
| M | -0.0147 | 0.1119 | -0.0194 | 0 |
| C | 4.4837 | | | 0 |
| R2 | 0.0317 | | | |
| AR | -0.0221 | | | |
| SER | 0.1357 | | | |
| NOB =20 | | | | |

Origin: Roughly calculated from Appendix 5.

Where: V is Variable, CT is Coefficient, C is Constant, SD is the Standard Deviation, T is T-Statistic, P is Probability, M is Economic Openness, R2 is R-Squared, AR is Adjusted R-Square, SER is Standard Error of Estimation NOB is number of Observation.

Appendix 5: Regression Calculation between Economic Openness and Employment during the year from 1996 to 2015.

| Y | EOI | EMP | X ² | Y ² | XY |
|-------|-------|------|----------------|----------------|----------|
| 1996 | 3.95 | 4.43 | 15.6025 | 19.6249 | 17.4985 |
| 1997 | 3.74 | 4.43 | 13.9876 | 19.6249 | 16.5682 |
| 1998 | 3.26 | 4.43 | 10.6276 | 19.6249 | 14.4418 |
| 1999 | 3.22 | 4.43 | 10.3684 | 19.6249 | 14.2646 |
| 2000 | 3.18 | 4.43 | 10.1124 | 19.6249 | 14.0874 |
| 2001 | 3.33 | 4.44 | 11.0889 | 19.7136 | 14.7852 |
| 2002 | 3.31 | 4.44 | 10.9561 | 19.7136 | 14.6964 |
| 2003 | 3.42 | 4.44 | 11.6964 | 19.7136 | 15.1848 |
| 2004 | 3.51 | 4.44 | 12.3201 | 19.7136 | 15.5844 |
| 2005 | 3.61 | 4.44 | 13.0321 | 19.7136 | 16.0284 |
| 2006 | 3.76 | 4.45 | 14.1376 | 19.8025 | 16.732 |
| 2007 | 3.87 | 4.45 | 14.9769 | 19.8025 | 17.2215 |
| 2008 | 3.9 | 4.45 | 15.21 | 19.8025 | 17.355 |
| 2009 | 3.77 | 4.44 | 14.2129 | 19.7136 | 16.7388 |
| 2010 | 3.86 | 4.43 | 14.8996 | 19.6249 | 17.0998 |
| 2011 | 4.03 | 4.42 | 16.2409 | 19.5364 | 17.8126 |
| 2012 | 4 | 4.41 | 16 | 19.4481 | 17.64 |
| 2013 | 3.88 | 4.4 | 15.0544 | 19.36 | 17.072 |
| 2014 | 3.81 | 4.4 | 14.5161 | 19.36 | 16.764 |
| 2015 | 3.71 | 4.4 | 13.7641 | 19.36 | 16.324 |
| TOTAL | 73.12 | 88.6 | 268.804 | 392.503 | 323.8994 |

Origin: Appendix 2

Where: Y is Year, EOI is the Economic Openness Index (X), and EMP is the Employment (Y).

THE INFLUENCE OF INDUSTRIAL POLICIES TO INVESTMENT DURING THE PERIOD FROM 1996 TO 2015 IN TANZANIA

The information discovered from the probe indicate the correlation between economic openness and Investment is positive and meaningful during the period from 1996 to 2015 in Tanzania. The computation displays the coefficient for economic openness is 0.6584($t=1.7331, p<.001$). The meaning is for each additional increase in economic openness Investment increases by 0.6584 points. Generally means industrial policies influenced Investment during the period from 1996 to 2015 in Tanzania. These findings originated from Table 1 below.

Table 1: Regression Results Between Economic Openness and Investment during the period from 1996 to 2015.

Dependent Variable : Investment

| V | CT | SD | T | P |
|---------|---------|--------|--------|---|
| M | 0.6584 | 0.3799 | 1.7331 | 0 |
| C | -2.2446 | | | 0 |
| R2 | 0.1457 | | | |
| AR | 0.0982 | | | |
| SER | 0.4611 | | | |
| NOB =20 | | | | |

Origin: Roughly calculated from Appendix 6.

Where: V is Variable, CT is Coefficient, C is Constant, SD is the Standard Deviation, T is T-Statistic , P is Probability, M is Economic Openness , R2 is R-Squared, AR is Adjusted R-Square , SER is Standard Error of Estimation NOB is number of Observation.

Appendix 6: Regression Calculation between Economic Openness and Investment during the period from 1996 to 2015.

| Y | EOI | INV | X ² | Y ² | XY |
|------|------|-----|----------------|----------------|----|
| 1996 | 3.95 | 0 | 15.6025 | 0 | 0 |
| 1997 | 3.74 | 0 | 13.9876 | 0 | 0 |
| 1998 | 3.26 | 0 | 10.6276 | 0 | 0 |

| | | | | | |
|-------|-------|-------|---------|--------|---------|
| 1999 | 3.22 | 0 | 10.3684 | 0 | 0 |
| 2000 | 3.18 | 0 | 10.1124 | 0 | 0 |
| 2001 | 3.33 | 0 | 11.0889 | 0 | 0 |
| 2002 | 3.31 | 0 | 10.9561 | 0 | 0 |
| 2003 | 3.42 | 0 | 11.6964 | 0 | 0 |
| 2004 | 3.51 | 0 | 12.3201 | 0 | 0 |
| 2005 | 3.61 | 0 | 13.0321 | 0 | 0 |
| 2006 | 3.76 | 0 | 14.1376 | 0 | 0 |
| 2007 | 3.87 | 0 | 14.9769 | 0 | 0 |
| 2008 | 3.9 | 0 | 15.21 | 0 | 0 |
| 2009 | 3.77 | 1.08 | 14.2129 | 1.1664 | 4.0716 |
| 2010 | 3.86 | 0.93 | 14.8996 | 0.8649 | 3.5898 |
| 2011 | 4.03 | 0.56 | 16.2409 | 0.3136 | 2.2568 |
| 2012 | 4 | 1.12 | 16 | 1.2544 | 4.48 |
| 2013 | 3.88 | 0.72 | 15.0544 | 0.5184 | 2.7936 |
| 2014 | 3.81 | -0.34 | 14.5161 | 0.1156 | -1.2954 |
| 2015 | 3.71 | -0.82 | 13.7641 | 0.6724 | -3.0422 |
| | | | | | |
| TOTAL | 73.12 | 3.25 | 268.804 | 4.9057 | 12.8542 |

Origin : Appendix 2

Where : Y is Year, EOI is the Economic Openness (X), and INV is the Investment (Y).

THE INFLUENCE OF INDUSTRIAL POLICIES TO IMPORT DURING THE PERIOD FROM 1996 TO 2015 IN TANZANIA

The information discovered from the probe indicate the correlation between economic openness and Import is positive and meaningful during the period from 1996 to 2015 in Tanzania. The computation displays the coefficient for economic openness is 1.1607 ($t=30, p<.001$). The meaning is for each additional increase in economic openness Import increases by 1.160 points. Generally means industrial policies influenced Import during the period from 1996 to 2015 in Tanzania. These findings originated from Table 1 below.

Table 1: Regression Results Between Economic Openness and Import during the period from 1996 to 2015.

Dependent Variable : Import

| V | CT | SD | T | P |
|---------|---------|--------|----|---|
| | | | | |
| M | 1.1607 | 0.0388 | 30 | 0 |
| C | -1.1464 | | | 0 |
| R2 | 0.9720 | | | |
| AR | 0.9704 | | | |
| SER | 0.04714 | | | |
| NOB =20 | | | | |

Origin: Roughly calculated from Appendix 7.

Where: V is Variable, CT is Coefficient, C is Constant, SD is the Standard Deviation, T is T-Statistic , P is Probability, M is Economic Openness , R2 is R-Squared, AR is Adjusted R-Square , SER is Standard Error of Estimation NOB is number of Observation.

Appendix 7: Regression Calculation between Economic Openness and Import during the period from 1996 to 2015.

| Y | EOI | IMP | X ² | Y ² | XY |
|------|------|------|----------------|----------------|---------|
| | | | | | |
| 1996 | 3.95 | 3.46 | 15.6025 | 11.9716 | 13.667 |
| 1997 | 3.74 | 3.25 | 13.9876 | 10.5625 | 12.155 |
| 1998 | 3.26 | 2.77 | 10.6276 | 7.6729 | 9.0302 |
| 1999 | 3.22 | 2.7 | 10.3684 | 7.29 | 8.694 |
| 2000 | 3.18 | 2.58 | 10.1124 | 6.6564 | 8.2044 |
| 2001 | 3.33 | 2.65 | 11.0889 | 7.0225 | 8.8245 |
| 2002 | 3.31 | 2.58 | 10.9561 | 6.6564 | 8.5398 |
| 2003 | 3.42 | 2.73 | 11.6964 | 7.4529 | 9.3366 |
| 2004 | 3.51 | 2.87 | 12.3201 | 8.2369 | 10.0737 |
| 2005 | 3.61 | 3 | 13.0321 | 9 | 10.83 |
| 2006 | 3.76 | 3.19 | 14.1376 | 10.1761 | 11.9944 |
| 2007 | 3.87 | 3.34 | 14.9769 | 11.1556 | 12.9258 |
| 2008 | 3.9 | 3.39 | 15.21 | 11.4921 | 13.221 |
| 2009 | 3.77 | 3.23 | 14.2129 | 10.4329 | 12.1771 |

| | | | | | |
|-------|-------|-------|---------|---------|----------|
| 2010 | 3.86 | 3.33 | 14.8996 | 11.0889 | 12.8538 |
| 2011 | 4.03 | 3.54 | 16.2409 | 12.5316 | 14.2662 |
| 2012 | 4 | 3.47 | 16 | 12.0409 | 13.88 |
| 2013 | 3.88 | 3.39 | 15.0544 | 11.4921 | 13.1532 |
| 2014 | 3.81 | 3.31 | 14.5161 | 10.9561 | 12.6111 |
| 2015 | 3.71 | 3.16 | 13.7641 | 9.9856 | 11.7236 |
| | | | | | |
| TOTAL | 73.12 | 61.94 | 268.804 | 193.874 | 228.1614 |

Origin : Appendix 2

Where : Y is the Year, EOI is the Economic Openness Index (X), and IMP is Import (Y) .

THE INFLUENCE OF INDUSTRIAL POLICIES TO EXPORT DURING THE PERIOD FROM 1996 TO 2015 IN TANZANIA

The information discovered from the probe indicate the correlation between economic openness and Export is positive and meaningful during the period from 1996 to 2015 in Tanzania. The computation displays the coefficient for economic openness is 0.6587 ($t=0.8237, p<.001$). The meaning is for each additional increase in economic openness Export increases by 0.6587 points. Generally means industrial policies influenced Export during the period from 1996 to 2015 in Tanzania. These findings originated from Table 1 below.

Table 1: Regression Results Between Economic Openness and Export during the period from 1996 to 2015.

Dependent Variable : Export

| V | CT | SD | T | P |
|---------|--------|--------|--------|---|
| | | | | |
| M | 0.6587 | 0.8239 | 0.8237 | 0 |
| C | 0.32 | | | 0 |
| R2 | 0.6343 | | | |
| AR | 0.6094 | | | |
| SER | 1 | | | |
| NOB =20 | | | | |

Origin: Roughly calculated from Appendix 8.

Where: V is Variable, CT is Coefficient, C is Constant, SD is the Standard Deviation, T is T-Statistic, P is Probability, M is Economic Openness, R2 is R-Squared, AR is Adjusted R-Square, SER is Standard Error of Estimation NOB is number of Observation.

Appendix 8: Regression Calculation between Economic Openness and Export during the period from 1996 to 2015.

| Y | EOI | EXP | X ² | Y ² | XY |
|-------|-------|-------|----------------|----------------|----------|
| | | | | | |
| 1996 | 3.95 | 3 | 15.6025 | 9 | 11.85 |
| 1997 | 3.74 | 2.79 | 13.9876 | 7.7841 | 10.4346 |
| 1998 | 3.26 | 2.31 | 10.6276 | 5.3361 | 7.5306 |
| 1999 | 3.22 | 2.32 | 10.3684 | 5.3824 | 7.4704 |
| 2000 | 3.18 | 2.38 | 10.1124 | 5.6644 | 7.5684 |
| 2001 | 3.33 | 2.63 | 11.0889 | 6.9169 | 8.7579 |
| 2002 | 3.31 | 2.66 | 10.9561 | 7.0756 | 8.8046 |
| 2003 | 3.42 | 2.71 | 11.6964 | 7.3441 | 9.2682 |
| 2004 | 3.51 | 2.78 | 12.3201 | 7.7284 | 9.7578 |
| 2005 | 3.61 | 2.83 | 13.0321 | 8.0089 | 10.2163 |
| 2006 | 3.76 | 2.91 | 14.1376 | 8.4681 | 10.9416 |
| 2007 | 3.87 | 2.99 | 14.9769 | 8.9401 | 11.5713 |
| 2008 | 3.9 | 2.97 | 15.21 | 8.8209 | 11.583 |
| 2009 | 3.77 | 2.9 | 14.2129 | 8.41 | 10.933 |
| 2010 | 3.86 | 2.98 | 14.8996 | 8.8804 | 11.5028 |
| 2011 | 4.03 | 3.07 | 16.2409 | 9.4249 | 12.3721 |
| 2012 | 4 | 3.11 | 16 | 9.6721 | 12.44 |
| 2013 | 3.88 | 2.95 | 15.0544 | 8.7025 | 11.446 |
| 2014 | 3.81 | 2.89 | 14.5161 | 8.3521 | 11.0109 |
| 2015 | 3.71 | 2.84 | 13.7641 | 8.0656 | 10.5364 |
| | | | | | |
| TOTAL | 73.12 | 56.02 | 268.804 | 157.9776 | 205.9959 |

Origin : Appendix 2

Where : Y is the Year, EOI is the Economic Openness Index (X), and EXP is the Export (Y) .

THE INFLUENCE OF INDUSTRIAL POLICIES TO REVENUE DURING THE PERIOD FROM 1996 TO 2015 IN TANZANIA

The information discovered from the probe indicate the correlation between economic openness and Revenue is positive and meaningful during the period from 1996 to 2015 in Tanzania. The computation displays the coefficient for economic openness is 2.3756 ($t=1.8237, p<.001$). The meaning is for each additional increase in economic openness Revenue increases by 2.3756 points. Generally means industrial policies influenced Revenue during the period from 1996 to 2015 in Tanzania. These findings originated from Table 1 below.

Table 1: Regression Results Between Economic Openness and Revenue during the period from 1996 to 2015.

Dependent Variable :Revenue

| V | CT | SD | T | P |
|---------|---------|--------|--------|---|
| M | 2.3756 | 1.3026 | 1.8237 | 0 |
| C | -7.9264 | | | 0 |
| R2 | 0.3109 | | | |
| AR | 0.27167 | | | |
| SER | 1.5811 | | | |
| NOB =20 | | | | |

Origin: Roughly calculated from Appendix 9.

Where: V is Variable, CT is Coefficient, C is Constant, SD is the Standard Deviation, T is T-Statistic , P is Probability, M is Economic Openness , R2 is R-Squared, AR is Adjusted R-Square , SER is Standard Error of Estimation NOB is number of Observation.

Appendix 9: Regression Calculation between Economic Openness and Revenue during the period from 1996 to 2015.

| Y | EOI | REV | X ² | Y ² | XY |
|------|------|-----|----------------|----------------|----|
| 1996 | 3.95 | 0 | 15.6025 | 0 | 0 |
| 1997 | 3.74 | 0 | 13.9876 | 0 | 0 |
| 1998 | 3.26 | 0 | 10.6276 | 0 | 0 |

| | | | | | |
|-------|-------|-------|---------|---------|--------|
| 1999 | 3.22 | 0 | 10.3684 | 0 | 0 |
| 2000 | 3.18 | 0 | 10.1124 | 0 | 0 |
| 2001 | 3.33 | 0 | 11.0889 | 0 | 0 |
| 2002 | 3.31 | 0 | 10.9561 | 0 | 0 |
| 2003 | 3.42 | 0 | 11.6964 | 0 | 0 |
| 2004 | 3.51 | 0 | 12.3201 | 0 | 0 |
| 2005 | 3.61 | 0 | 13.0321 | 0 | 0 |
| 2006 | 3.76 | 0 | 14.1376 | 0 | 0 |
| 2007 | 3.87 | 0 | 14.9769 | 0 | 0 |
| 2008 | 3.9 | 0 | 15.21 | 0 | 0 |
| 2009 | 3.77 | 2.5 | 14.2129 | 6.25 | 9.425 |
| 2010 | 3.86 | 2.34 | 14.8996 | 5.4756 | 9.0324 |
| 2011 | 4.03 | 2.33 | 16.2409 | 5.4289 | 9.3899 |
| 2012 | 4 | 2.43 | 16 | 5.9049 | 9.72 |
| 2013 | 3.88 | 2.43 | 15.0544 | 5.9049 | 9.4284 |
| 2014 | 3.81 | 2.5 | 14.5161 | 6.25 | 9.525 |
| 2015 | 3.71 | 2.43 | 13.7641 | 5.9049 | 9.0153 |
| | | | | | |
| TOTAL | 73.12 | 16.96 | 268.804 | 41.1192 | 65.536 |

Origin : From Appendix 2

Where : Y is the Year, EOI is the Economic Openness Index (X), and REV is the Revenue (Y).

Summary of the findings

Findings of the study reveal that the correlation between economic openness and all macroeconomic variables (industrial registration, Gross Domestic Product (GDP), investment, import, export and revenue) is positive and meaningful Except to Employment. The correlation between economic openness and employment is negative and meaningless. The meaning is industrial policies had significant influence to all macroeconomic variables (industrial registration, Gross Domestic Product (GDP), investment, import, export and revenue) except Employment during the period from 1996 to 2015 in Tanzania.

Limitation of the study

The study analyzed the influence of Industrial policies to economic development, however the study does not mention the quantity and extent of the influence of industrial policies to economic development during the period from 1996 to 2015 in Tanzania. Future research studies should investigate the influence of industrial policies to economic development by mentioning the quantity and extent of influence of industrial policies to economic development during the period from 1996 to 2015 in Tanzania.

Conclusions and recommendations

The information discovered from the probe were in actual fact absorbing. Findings of the study reveal that the correlation between economic openness and all macroeconomic variables (industrial registration, Gross Domestic Product (GDP), investment, import, export and revenue) is positive and meaningful Except to Employment. The correlation between economic openness and employment is negative and meaningless. The meaning is industrial policies had significant influence to all macroeconomic variables (industrial registration, Gross Domestic Product (GDP), investment, import, export and revenue) except Employment during the period from 1996 to 2015 in Tanzania.

Recommendations

From the fact that the correlation between industrial policies and employment is negative and meaningless during the period from 1996 to 2015 in Tanzania, Industrial policies should be customarily appraised to reflect the veracious environment of employment and economic development in Tanzania.

The future research should investigate on the making and unmaking of strong and weak industrial policies, understanding policies features formation within industrial sector to support the economic development in Tanzania.

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